

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
2015 Gold King Mine Release SITREP



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 8



Subject: Situation Report #10
Gold King Mine Release
San Juan County, CO
Latitude: 37.8945 Longitude: -107.6384

From: Colorado Unified Command (Situation Unit)

Date: 08/18/2015

Reporting Period: 08/17/2015 through 08/17/2015

Website: <http://www2.epa.gov/goldkingmine>

New information included in the SITREP is in bold text.

Executive Summary

On August 5, while investigating the Gold King Mine in Colorado, the EPA cleanup team triggered a release of mine wastewater into Cement Creek which feeds into the Animas River. The release resulted in coloring the Animas River a mustard-orange as the pulse of the release moved downstream. The leading edge of the release passed through Durango, Colorado, on Friday, August 7, 2015, and on August 8, 2015, it crossed the border into New Mexico where it eventually discharged into the San Juan River. As the leading edge of the release moved further down the Animas River into the San Juan River it became indistinguishable.

A Unified Command (UC) located in Durango, Colorado was established and continues to assess and mitigate contamination resulting from the release. The UC includes EPA Region 8, State of Colorado Office of Emergency Management (OEM), Southern Ute Indian Tribe, and La Plata County. San Juan Basin Health Department has transitioned out of the UC and is now providing an Agency Administrator to the UC. Currently San Juan County and the Ute Mountain Ute Tribe are providing Administrators to the UC. The City of Durango and the Colorado Department of Public Health and the Environment (CDPHE) are providing Agency Representatives to the UC.

The EPA and CDPHE have been taking daily surface water samples from the Animas River and Cement Creek. Animas River sediment sampling has occurred. CDPHE has sampled raw and finished public drinking water supply systems. Upon request, the EPA has also been sampling private drinking water wells. The results of the sampling analysis are being distributed as appropriate. The EPA has also completed irrigation ditch assessment and ditches were flushed and monitored prior to opening for irrigation use.

The Animas River reopened to recreational use mid-day Friday August 14, 2015 after being closed to all watercraft since August 6, 2015. The City of Durango's drinking water intake was not in use at the time of the event and remained off line until Friday, August 14, 2015.

An EPA Area Command (AC) is also located in Durango, Colorado and coordinates EPA's response between the EPA Regions 6, 8, and 9.

La Plata and San Juan counties still have active disaster declarations and the public health advisory issued 8/14/2015 by CDPHE for the Animas River remains active.

A Joint Information Center (JIC) and an EPA AC public information officer (PIO) are co-located and coordinating support for the UC and the EPA AC respectively.

1. Introduction

1.1 Background

Site Number: A8K9RV

Contract Number:

D.O. Number:

Action Memo Date:

Response Authority:	CERCLA	Response Type:	Emergency
Response Lead:	EPA	Incident Category:	
NPL Status: not listed		Operable Unit:	
Mobilization Date:	08/05/2015	Start Date:	08/05/15
Demob Date: TBD		Completion Date:	
CERCLIS ID:		RCRIS ID:	
ERNS No.:		State Notification:	08/05/15

1.1.1.1 Incident Category

1.1.2 Site Description

The Gold King Mine near Silverton, Colorado is a historic gold mine at approximately 11,300' elevation. The mine has a continuous discharge of acidic mine drainage that is a significant contributor of manganese, zinc, copper, and cadmium into the Cement Creek drainage of the Animas River watershed. The Gold King Mine has not had maintenance of the mine workings since 1991, and the workings have been inaccessible since 1995 when the mine portal collapsed.

The EPA Region 8 has been investigating the conditions to assess the on-going releases and incremental de-watering and removal of blockages to prevent blowouts.

1.1.2.1 Location - San Juan County, Colorado, La Plata County, Colorado, Southern Ute Indian Reservation and Ute Mountain Ute Tribe reservation.

1.1.2.2 Description of Threat

Mine waste water was released into Cement Creek and the Animas River. The volume of the release based on US Geological Survey (USGS) Cement Creek gauging station was estimated at three million gallons. The initial environmental concern was the pulse of contaminated water containing sediment and metals discharged in Cement Creek which flows into the Animas River through Durango, Colorado, and into New Mexico where it joins the San Juan River before flowing into Utah.

1.1.3 Site Inspection Results

The Executive Summary section provides a description of the various sampling efforts that have occurred.

1.2 Incident Objectives

- 1. Ensure health and safety of the public and response management personnel.**

Sampling operations:

- 2. Continue sampling plan and develop strategy to identify and evaluate any potential risks due to sediment in the river.**
- 3. Continue river assessment through surface water sampling.**
- 4. Amend field sampling plan to include assessment of remote areas of the canyon by Tuesday 8/18/2015.**
- 5. Roll current well sampling effort into interim shallow groundwater monitoring plan currently under development. Communicate private well results and other follow-up action within 120 hours of sampling.**
- 6. Develop a demobilization plan for next operational period.**
- 7. Implement medium term river monitoring plan with contractor per their scope of work.**

Mine:

- 8. Continue management of adit discharge.**
- 9. Maintain stability of mine road to ensure access.**
- 10. Prepare for mine dump stabilization.**

Outreach/Community:

- 11. Effectively communicate with public and stakeholders, including San Juan County, Colorado, utilizing a multi-faceted communication strategy to disseminate results.**
- 12. Develop a means to assess the economic impact upon affected communities.**
- 13. Continued coordination with the Department of Agriculture (including state and local veterinarians) and the Colorado Extension.**
- 14. Develop short term notification system for any immediate needs and develop a plan for implementing a workgroup to develop a long term notification plan.**
- 15. Provide water of appropriate quality for specified use.**

1.3 Critical Resource Needs

All resources are being tracked by the Resources Unit. Resources for the response continue to be ordered as needed to fill critical resource needs.

1.4 Strategic Considerations

United group of subject matter experts to advise policy makers.

2. Current Activities

2.1 Operations Section

2.1.1 Response Actions to Date

The EPA is continuing property assessments on an as needed basis and identifying mitigation needs. The EPA sampled at five surface water locations as follows:

Cement Creek – 1

Animas River upstream of confluence with Cement Creek – 1

Animas River downstream of confluence with Cement Creek – 1

Animas River through Durango – 2 (Baker's Bridge and River Road)

The EPA sample count by media for 8/17/2015 is provided in the following table:

Sample Count for 8/17/2015		
Matrix	Number of Sample Collected	Sample Type
Potable Water	26	Field Sample
Surface Water	7	Field Sample

These sample numbers include quality assurance samples.

Call center totals are provided in the following table:

	8/15-17	To Date Total
Well Water Test Scheduling	13	345
Water Concerns	2	101
Health Concerns	0	31
Recreation	1	21
Ecological Concerns	2	19
Livestock/Irrigation	2	19
Tourism/Media	1	53
Volunteer Offers	1	22
General Concerns	0	119
Daily Totals:	22	730

Total calls received at the Call Center through Sunday, 8/17/2015 is 730. An inaccuracy was found when reviewing the numbers reported yesterday. This report covers several days and corrects the inaccuracy.

Currently all irrigation ditches are open and available for irrigation use.

On 8/17/15 there was one delivery of 500 gallons non-potable water.

Potable water distribution:

Deliveries were made to two locations for a total of 46,800 gallons.

Other Operations:

The EPA continues to pump and filtrate river water to fill fish ponds at one location.

1120 cases of bottled water have been purchased to hand out to community. Bottled water is available at the UC/AC facility for pickup by community members.

The EPA is conducting **private** well water sampling as needed and calling those residents sampled to provide the analytical results. **Based on the sample results reported as of 8/17/2015, seven out of 105 private wells sampled had some exceedance of drinking water standards. These samples were taken from the well head and not the tap. It is unclear if the exceedances were caused by the mine release. Follow up work at the wells that exceeding drinking water standards include: flushing the well; resampling at the well; and taking an additional tap water sample for analysis.**

The following table provides the well information up to mid-day 8/18/2015.

Quantity	Totals
Well samples requested	311
Wells sampled	200
Wells with primary drinking water exceedances*	7
Wells with secondary drinking water exceedances*	11
Remaining wells to be sampled	111

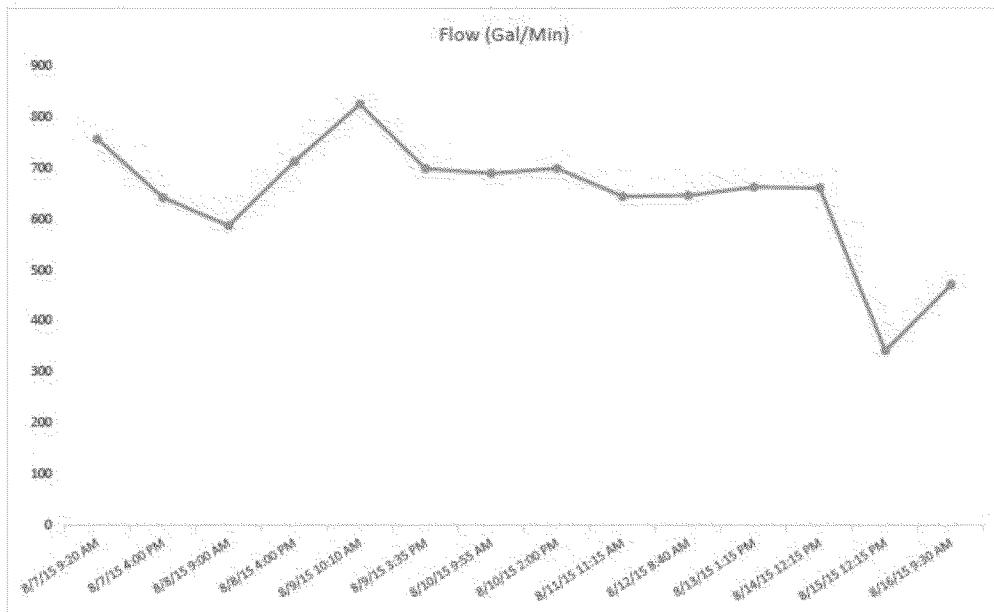
*these samples are taken at the well head and not the tap

On 8/17/2015 CDPHE took their last sample of raw and finished water samples from public water supply systems in the impacted area. Public water systems will continue sampling according to their regular sample plans established by CDPHE.

Gold King Mine Site

The EPA continues to operate and work on optimizing four treatment and sedimentation ponds at the mine site which are treating water by lowering acidity levels and removing dissolved metals. **Water quality parameters were collected at 11 locations three times daily and four surface water samples are being collected. The four samples taken yesterday were from the Gold King Adit, the effluent of treatment pond #4, upstream on Cement Creek prior to confluence with treated water, and one downstream from confluence of treated water. The water quality parameters are pH, temperature, oxidation reduction potential (ORP), conductivity, turbidity, dissolved oxygen, total dissolved solids.** The road stabilization work continues.

Flow from the mine through the morning of 8/16/2015 is shown in the following chart. **The flow at hour 1500 was 544 gallons per minute (gpm).** Treated water from the last treatment pond is discharging into Cement Creek. **The graph will be updated in the next SITREP.**



2.1.2 Anticipated Activities

On 8/18/2015 the EPA and CDPHE will be assessing the upper Animas River through the canyon.

The CDPHE plans to demobilize on 8/19/2015 and will return to the normally scheduled watershed sampling in the area.

The San Juan County commissioners are holding a working session about the Gold King Mine Release the evening on Tuesday, 8/18/2015 that is open to the public. The meeting is being held at the Silverton Town Hall at 6:30 p.m.

2.2 Logistics Section

No report.

2.3 Finance Section

No report.

2.4 Other Command Staff

2.4.1 Safety Officer

As of Monday, mine operations have acquired two UTV's to replace 4x4 vehicles as the main mode of site transportation of visitors. All visitors will be required to attend an onsite safety brief, comply with the requirements, and remain in the vehicle at all times. Visitors will also be required to don a hard hat, safety vest, protective eyewear and safety shoes prior to visiting the mine site. The elevation and dramatic change in weather are always of concern so be prepared.

2.4.2 Liaison Officer

No report.

2.4.3 Information Officer

There are two PIOs in Silverton to support the community information needs.

There is a community event planned for this week. The announcement for this is attached to this SITREP.

Social Media Sites being maintained by the UC JIC through local and state resources are:

Blog – goldkingminerelease.blogspot.com

FB – facebook.com/goldkingminerelease

Twitter - @GKMRelease

YouTube Channel – Gold King Mine Release

As of 8 am on 8-18-2015, the blog has received 722 page views and 0 comments; Facebook has 19 likes, 5 shares and 0 comments; and there have been 11 tweets and there are 15 followers.

2.4.4 Weather Forecast

Weather forecast for August 18 and 19, 2015:

DURANGO AREA

Today

Sunny, with a high near 81. Light west wind becoming west northwest 10 to 15 mph in the morning. Winds could gust as high as 25 mph.

Tonight

Mostly clear, with a low around 46. North wind 10 to 15 mph decreasing to 5 to 10 mph after midnight. Winds could gust as high as 25 mph.

Wednesday

Sunny, with a high near 83. North wind 5 to 15 mph becoming west in the afternoon.

Wednesday Night

Clear, with a low around 49. West wind 5 to 10 mph becoming north after midnight.

SILVERTON AREA

Today

Sunny, with a high near 69. Breezy, with a south southwest wind 5 to 10 mph becoming west northwest 15 to 25 mph in the morning.

Tonight

Mostly clear, with a low around 38. Breezy, with a northwest wind 15 to 20 mph decreasing to 5 to 10 mph after midnight.

Wednesday

Sunny, with a high near 67. North northwest wind 10 to 15 mph.

Wednesday Night

Mostly clear, with a low around 39. West northwest wind around 5 mph becoming calm after midnight.

3. Participating Entities

3.1 EPA Area Command

The AC includes EPA Regions 6, 8 and 9. The EPA Region 8 is part of the Colorado UC. The EPA Region 6 is working closely with the New Mexico Environment Department (NMED) and the EPA Region 9 is working with the Navajo Nation. The AC is completing daily Executive Summary updates on AC activities.

3.2 Unified Command and Cooperating Agencies

A Unified Command (UC) located in Durango, Colorado was established and continues to assess and mitigate contamination resulting from the release. The UC includes EPA Region 8, State of Colorado Office of Emergency Management (OEM), Southern Ute Indian Tribe, and La Plata County. San Juan Basin Health Department has transitioned out of the UC and is now providing an Agency Administrator to the UC. Currently San Juan County and the Ute Mountain Ute Tribe are providing Administrators to the UC. The City of Durango and the Colorado Department of Public Health and the Environment (CDPHE) are providing Agency Representatives to the UC.

The SUIT continues water delivery. As a proactive measure, the SUIT is installing reverse osmosis on tribal residential kitchen taps. If well sampling results show any concerns, additional actions will be taken.

US Bureau of Reclamation (USBR) Technical Service Center is providing technical assistance for the EPA road stabilization efforts in and around the mine site.

A Disaster Assistance Center (DAC) was requested by La Plata County. The request was implemented by the Colorado Department of Local Affairs (DOLA) and will be open in the La Plata County Fairgrounds exhibit hall on Tuesday and Wednesday (August 18 and 19) from 1000 to 1600 hours. The EPA will be accepting claims at this event and CDPHE will also be present. The DAC provides technical assistance and support to the community and impacted residents including providing information on low cost loans.

4. Total Personnel On Incident

Gold King Mine Release 2015	
	08/17/2015
Group	Number
EPA @ REOC	3 (21 on call)
Contractors @ REOC	1
EPA in Field (R8)	22
Contractors in Field (R8)	34
EPA Laboratory	0
Contractors Laboratory	1
USCG	3
ERT	1
Subtotal EPA Region 8 Resources	86

Personnel working at the Colorado Unified Command Post on 08/17/15
(Does not include Area Command Personnel):

Position / Section	Number of Personnel
Unified Command	7*
PIO	10
Safety	2
Operations	2
Planning (incl SITL, ENVL & RESL)	4
Logistics	4
Finance	2
Liaisons	4
Agency Representatives/Administrators	1
Total	36

*One UC is located at the Gold King Mine site

5. Definition of Terms –

ATSDR= Agency for Toxic Substances and Disease Registry

EPA = United States Environmental Protection Agency

CERCLA = Comprehensive Environmental Responsibility, Compensation and Liability Act

CDPHE = Colorado Department of Public Health and Environment

USGS = United States Geological Survey

UC = Unified Command (Comprised of Southern Ute Indian Tribe, La Plata County, San Juan Basin Health Dept, EPA, State of Colorado OEM)

UCP = Unified Command Post

AC = Area Command (Comprised of EPA Regions 6, 8 and 9)

NMED = New Mexico Environment Department

BIA = Bureau of Indian Affairs
BOR = Bureau of Reclamation
COEM = Colorado Office of Emergency Management
CDPW = Colorado Department of Parks and Wildlife
DAC= Disaster Assistance Center
DOLA= Department of Local Affairs
SWIMT = South West Incident Management Team
MCL=Maximum Contaminant Levels
MSDS = Material Safety Data Sheet
PIO= Public Information Officer
PPE = Personal Protective Equipment
USCG = United States Coast Guard
UTV= Utility Terrain Vehicle
ERT = EPA Emergency Response Team
REOC = EPA Regional Emergency Operations Center

6. **Additional sources of information** – http://www2.epa.gov/goldkin_gmine

Attachment: Community Event Information

Event: Love the Animas

Joining in and supporting the Event "Durango is back - River and Bike Parade", Mild to Wild wants to show our love for the #AnimasRiver and our appreciation for the community support.

In celebration,

1. We have 2 boats reserved for local officials and media. Please call Mild to Wild to reserve your seat (970.247.4789).

2. We are also are donating 40 seats in rafts to the 1st 40 reservations. To reserve your seat: <http://bit.ly/1ffVXLs>

3. We will be facilitating private boaters and help manage congestion by providing people shuttles. We will be making loops from Four Corners & Santa Rita Park to 32cd or 29th Street from 4:30pm-5:30pm and 7:30-8:30pm.

Thanks again for all your love and support. The Animas River really is the heart of Durango and impacts us in more ways than most of us thought! If you have your own boat, the parade starts at 5:30 pm. If you prefer to show your support via the riverside bike path, join in by foot or bike. Let's show the world how beautiful Durango is, how lucky we are to live here and what a beautiful recreational and adventure waterway the #AnimasRiver is.

Date: Tuesday, August 18th

Time for event "Durango is back - River and Bike Parade: 5:30 pm at 32cd, 29th or anywhere on the bike path.

Meet time for Mild to Wild's Raft Trip "Love the Animas", join us at Mild to Wild at 4:45pm.

Post parade: Head downtown to support our businesses there!

Spread the word! #AnimasRiver #LoveRiver #VisitDurango #LoveTheAnimas

Molly Mickel

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Explore. Experience. Escape.

And Always, Live with Adventure!

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